

## INNOVATION: KEY TO IMPROVE BUSINESS GROWTH OF BANKING INDUSTRY

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### **ABSTRACT**

*The banking industry in India has a huge canvas of history, which covers the traditional banking practices right from nationalization to privatization of banks and now to multinational banks in India. The use of technology has brought a revolution in the working style of the banks. Nevertheless, the fundamental aspects of banking i.e. trust and the confidence of the people on the institution remain the same. This situation has denied the banks the much needed information regarding this important area of financial innovations sometimes leading to reverse causality in the innovation-financial performance relationship. Financial innovations are used by banks as formidable strategic variables to outstrip the competition and have become an essential means for the bank to improve its performance and to maintain its effectiveness on the market. This paper describes the current state of Internet banking in India and discusses its implications for the Indian banking industry. The main purpose of the study was to assess the effect of innovation and business processes growth on commercial bank's performance through reducing banking costs, electronic banking can increase bank incomes.*

**KEYWORDS:** Internet Banking, Financial Innovations, Electronic Banking

### **I. INTRODUCTION**

#### **Internet Banking**

Internet banking (or E-banking) means any user with a personal computer and a browser can get connected to his bank's website to perform any of the virtual banking functions. In internet banking system the bank has a centralized database that is web-enabled. All the services that the bank has permitted on the internet are displayed in menu. Once the branch offices of bank are interconnected through terrestrial or satellite links, there would be no physical identity for any branch. It would be a borderless entity permitting anytime, anywhere and anyhow banking.

Internet banking provides enormous benefits to consumers in terms of ease and cost of transactions, either through Internet, telephone or other electronic delivery. Electronic finance (E-finance) has become one of the most essential technological changes in the financial industry. E-finance as the provision of financial services and markets using electronic communication and computation.

#### **1.1 Technology used in E-Banking**

**The Electronic Fund Transfer (EFT):** The facility offers you to make payment to account holder of other banking an efficient and fast manner. EFT transactions are settled electronically.

**National Electronic Fund Transfer (NEFT):** This is the faster mode of fund transfer in which the funds are credited to the beneficiary's account on the same day. It is offered by computerized branches of certain banks takes a minimum of 3 working days to be credited to the beneficiary's account.

**Automated Teller Machines (ATM):** The Automated Teller Machines are installed, at every nook and corner in most of the towns and cities. These are meant for balance enquiries, cash withdrawals and many other facilities depending upon the policies of the bank.

**Debit cards:** Debit cards are another advanced technology of the electronic banking, now a-days. Debit cards ensure the automatic deduction of amount from the account just by scratching it on the machine.

**Credit Cards:** A Credit card system is a type of retail transaction settlement and credit system, named after the small plastic card issued to user of system. In the case of credit cards, the issuer lends money to consumer (or the user).

**Charge Cards:** A Charge card is a means of obtaining a very short term (usually around 1 month) loan for a purchase. It is similar to a credit card, except that the contract with the card issuer requires that the card holder must each month pay charges made it in full-there is no "minimum payment" other than the full balance.

**Smart Card:** A card that is used for storing and retrieving personal information, normally the size of credit card and contain electronic memory and an embedded integrated circuit.

**Payment and settlement system and Information technology:** A milestone was crossed during 2003-04 with commencement of the Real Time Gross Settlement (RTGS) as a facility available for quick, safe and secure electronic mode of fund transfer.

## 1.2 Impact of E-Banking on banks' Services

E-banking transactions are much cheaper than branch or even phone transactions. E-banks are easy to set up, so lots of new entrants will arrive. E-banking gives consumers much more choice. Consumers will be less inclined to remain loyal. Portal providers are likely to attract the most significant share of banking profits. Indeed banks could become glorified marriage brokers.

E-banking is just banking offered via a new delivery channel. It simply gives consumers another service (just as ATMs did). Customers want full service banking via a number of delivery channels. The future is therefore "Martini Banking" (any time, any place, anywhere, anyhow). E-banks have already found that retail banking only becomes profitable once a large critical mass is achieved. Consequently many e-banks are limiting themselves to providing a tailored service to the better off.

E-Banking transaction needs some interface to communicate with banking customer. All the electronic transaction performs through some interfaces. The electronic devices which perform interact with customers and communicate with other banking system is called electronic banking delivery channels.

The E-banking is changing the banking industry and is having major effect on banking relationship. The deregulation of the banking industry coupled with the emergence of new technologies, is enabling new competitors to enter the financial services market quickly and efficiently. Commercial banks offer a wide range of e-banking services to the customer.

Banking services are delivered to a customer at his office or home by using electronic technology. Customer need not necessarily visit banks to carry out their banking transactions and can meet their requirements through the means of electronic banking facility.

Electronic devices are helping the banks to reduce transaction cost and improve efficiency. E-banking is reducing the transaction costs and is winning the trust of customers and roving to be an appropriate model for customer service of commercial banks in India. So the E-banking has a greater role in customer service of commercial banks in India.

## 1.3 Key Benefits regarding Internet Banking:

- **Customer's convenience**

Direct banks are open for business anywhere there is an internet connection. They are also 24hours a day, 365 days a year open while if internet service is not available, customer services is normally provided around the clock via telephone. Real-time account balances and information are available at the touch of a few buttons thus, making banking faster, easier and more efficient. In addition, updating and maintaining a direct account is easy since it takes only a few minutes to change the mailing address, order additional checks and be informed for market interest rates.

- **More efficient rates**

The lack of significant infrastructure and overhead costs allow direct banks to pay higher interest rates on savings and charge lower mortgage and loan rates. Some offer high-yield checking accounts, high yield certificate of deposits (CDs), and even no-penalty CDs for early withdrawal. In addition, some accounts can be opened with no minimum deposits and carry no minimum balance or service fees.

- **Services**

Direct banks typically have more robust websites that offer a comprehensive set of features that may not be found on the websites of traditional banks. These include functional budgeting and forecasting tools, financial planning capabilities, investment analysis tools, loan calculators and equity trading platforms. In addition, they offer free online bill payments, online tax forms and tax preparation.

- **Mobility**

Internet banking also includes mobile capabilities. New applications are continually being created to expand and improve this capability on smart-phones and other mobile devices.

- **Transfers**

Accounts can be automatically funded from a traditional bank account via electronic transfer. Most direct banks offer unlimited transfers at no cost, including those destined for outside financial institutions. They will also accept direct deposits and withdrawals that the customer authorizes such as payroll deposits and automatic bill payment.

- **Ease of use**

Online accounts are easy to set up and require no more information than a traditional bank account. Many offer the option of inputting the customer's data online or downloading the forms and mailing them in. If the customer runs into a problem, he has the option of calling or e-mailing the bank directly.

## II. BALANCE SCORECARD

A new approach to strategic management was developed in the early 1990's by Drs. Robert Kaplan (Harvard Business School) and David Norton. They named this system the 'Balanced Scorecard'(BSC). Recognizing some of the weaknesses of previous management approaches, the BSC provides a comprehensive methodology as to what organizations should measure in order to 'Balance' the organizational perspective. The development of the BSC can be broken down into three distinct generations (Cobbold and Lawrie, 2002). The 1st generation BSC was initially described as a simple one with four perspectives.

### 2.1 The Financial perspective

The opportunity of financial data usage is considered important by Kaplan and Norton. Financial measures convey the economic consequences for the actions already taken by the organization, and focus on the profitability related measures on which the shareholders verify the profitability of their investment. Therefore, under this perspective managers are required to generate measures that answer the following question: "To succeed financially, how should we appear to our shareholders?" Kaplan and Norton acknowledge the need for traditional financial data. The accurate and timely financial data are necessary for the efficient and smooth direction of the organization. The provision of the right and timely financial data to the right person in the organization helps much in the process of making the right decision in the right moment. Under this perspective the most common performance measures incorporated are: ROI, Cash Flow, Net Operating Income, Revenue Growth, etc

### 2.2 The Customer perspective

Modern management studies consider client oriented business activities as an important part of a company's strategy. The basis here is the customers' satisfaction – unsatisfied customers will prefer the competitor's product instead. Low performance in this perspective might cause a decay of business even if current financial and other perspectives are well performed. In order to create indicators of customer's satisfaction special research is needed.

### 2.3 The Learning and Growth perspective

This company's activity refers to staff training and development of corporate culture. The philosophy of such concept is based on every staff member's high educational level at our modern age of

information. Oppositely to old management studies it might be effective to give more freedom to employees concerning the way how they are to execute their tasks.

Also the role of relationships between employees has became much more important than in it was considered by old style industrial companies. Psychological researches of business define corporate culture as “the character of an organization” with its unique ethical norms and managerial behaviors. Much work needs to be executed to form and support such culture.

#### 2.4 The Internal processes perspective

Internal processes activity aims to form the tree of business process in order to monitor and optimize a company's performance. It helps to improve such characteristics as the return on resources. There are several techniques of modeling the business process but it is recommended to use specialists in this sphere who also clearly understand the company's structure in order to succeed in optimization.

Internal process perspective seems the most sophisticated activity for lots of companies' CEOs. That is why IT market referring to business is developing so fast. With the quality of services nowadays that the information technology market could offer to business, it doesn't seem hard to succeed in such an activity like internal process perspective. Certainly, it needs investment in such non material things, as well as in employee's skills to operate new tools.

#### 2.5 IBPP (Internal Business Process Perspective) Strategy:

Table 1: IBPP (Internal Business Process Perspective) Strategy

Strategic Objective (Internal Process Perspective)	Strategic Measurements (lag indicators)	Strategic Measurements (lead indicators)
Creative Innovative products	New product revenue	Product development cycle
Cross-sell products	Cross-sell ratio	Hours with customers
Shift customers to cost-effective channels	Channel mix change	Rationalized forms & processes
Minimize operational problem	Service error rate	Transaction efficiency
Responsive service	Request fulfillment time	Management performance & Sales performance

### III. INNOVATION

Innovation is more important today because differentiation is more important in today's environment, and for two main reasons. One is that banks are returning to their focus on growth. Banks did a good job of reducing costs and increasing efficiency in the last few years. But now, flattening returns in the areas of operating profit margins and return on assets have forced banks to rethink their growth strategies in addition the price earnings ratio has been declining, showing that the market doesn't have very high confidence in banks ability to grow.

The second reason for the innovation is so important, and maybe the more important reason is that the competition from new players both inside and outside the traditional banking industry, along with consolidation among the largest banks, as well as commoditization of most of the basic retail banking products and services has forced banks to really try to stand out in the crowd. And innovation is a way for them to do that.

#### 3.1 CORE BANKING SOLUTION (CBS)

Core banking is a general term used to describe the services provided by a group of networked bank branches. Bank customers may access their funds and other simple transactions from any of the member branch offices at Real Time. Core means Centralized Online Real time Electronic banking. Core banking is a feature wherein officers of a bank in one branch can view the details of customer and accounts of the same banks other branches. This was created to ensure that customers do not loose time for transaction.

#### 3.2 CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

Customer relationships are becoming even more important for banks as market conditions get harder. Competition is increasing, margins are eroding, customers are becoming more demanding and the life-cycle of the products and services are shortening dramatically. All these forces make it necessary

for banks to intensify the relationship with customers and offer them the services they need via the channel they prefer. There are the following benefits regarding CRM:

- Banks that implement CRM make better relationship with customers, achieve loyal customers and a substantial payback, increased revenue and reduced cost.
- Optimization of the use of bank resources such as alternative channels of distribution (Internet and Home Banking).
- It permits businesses to leverage information from their databases to achieve customer retention and to cross-sell new products and services to existing customers.
- Low maintenance and expansion costs owing to the use of modern administration tools which allows bank employees to make a wide range of modifications to the system.

### **3.3 Electronic Bill and Payment Systems**

Electronic bill payment is a feature of online banking and mCommerce, allowing a depositor to send money from his demand account to a creditor or vendor such as a public utility or a department store to be credited against a specific account. The payment is optimally executed electronically in real time, though some financial institutions or payment services will wait until the next business day to send out the payment. The bank can usually also generate and mail a paper cheque to a creditor who is not set up to receive electronic payments.

### **3.4 PC-Banking**

PC banking is your personal bank branch, open for business day and night. With PC banking you connect over a secure Internet connection and can do all your banking transactions from your PC: your payments, investments, savings and so on. PC banking is mostly used by corporate customers with large accounts. The idea is to give corporate direct access to the bank's software because of the volume and frequency of their transactions with the bank to do their transfers themselves and also to avoid delay of processing transactions thereby bringing banking services to the house of the customer. PC banking is computer specific in that the customer's computer is registered on the bank's network to the network card level, IP address and MAC address, which is the only machine that will be allowed or accepted on the bank's network. The difference between PC banking and internet banking is that, PC banking is computer specific whiles internet banking is computer independent that is to say you can use any computer anywhere for your transaction.

### **3.5 CHEQUE TRUNCATION SYSTEM (CTS)**

In India, the RBI has made available inter-bank and customer payments online in near-real time in the form of RTGS and NEFT. However, cheques still remain a prominent mode of payment in the country. Physical cheques still account for 75% to 80% of all transactions. So, the RBI has decided to focus on improving efficiency of the cheque clearing cycle. Thus, offering CTS is an alternative. CTS also reduces operational risks in banking operations as clearing is a highly fraud prone operation. This explains CTS from the regulators' perspective.

### **3.6 Real Time Gross Settlement (RTGS)**

Real Time Gross Settlement system, introduced in India since March 2004, is a system through which electronics instructions can be given by banks to transfer funds from their account to the account of another bank. The RTGS system is maintained and operated by the RBI and provides a means of efficient and faster funds transfer among banks facilitating their financial operations. As the name suggests, funds transfer between banks takes place on a 'Real Time' basis. Therefore, money can reach the beneficiary instantaneously and the beneficiary's bank has the responsibility to credit the beneficiary's account within two hours.

### **3.7 SMS Banking**

SMS banking involves the use of short messaging on mobile phone. It is also a mobile phone service just like mobile banking but the difference here is that it the bank gives you a short code messages on your mobile device for example bal. will represent your balance and you send it to a short code which is built into the banking software and that will return the message in the same short code format.

SMS banking services are operated using both push and pull messages. Push messages are those that the bank chooses to send out to a customer's mobile phone, without the customer initiating a request for the information. Typically push messages could be either Mobile marketing

messages or messages alerting an event which happens in the customer's bank account, such as a large withdrawal of funds from the ATM or a large payment using the customer's credit card, etc. Pull messages on the contrary are messages initiated by customers making a request or enquiry on a service e.g. request for bank statement, account balance etc.

Key benefits regarding the SMS Banking:

- Corporate and Retail clients can have the convenience of banking from their offices without physically moving to the bank's premises.
- Enhances regular monitoring of the customers' accounts
- To Ease Congestion at the Banking Halls
- To offer 24hrs Banking Services to customers
- Increase the Profitability of Bank by charging for the service.
- Advertisement of Banks own Services as well as Third Party products to generate revenue.
- Off-Shore customers can easily open accounts with the bank
- Differentiation of the Bank from Direct Competition

### 3.8 E-ZWICH

E-ZWICH utilizes smart card technology to provide a common fully integrated platform for paying for goods and services throughout the country based on biometric fingerprint identification. E-ZWICH technology allows for a secure national payment system that manages the flow of funds between customers, merchants and financial service providers. Customers are able to perform transactions at any bank no matter where their traditional accounts are domiciled. All transactions occur between a client card and a merchant or a bank teller card at a Point Of Sale (POS) terminal rather than through a host mainframe. This allows the E-ZWICH system to operate in rural settlements that have very poor network infrastructure.

Key Benefits of E-ZWICH:

- There is no minimum balance required on a smart card.
- The smart card holder can spend and draw cash only when necessary, hence the there is no risk of money being stolen.
- Interest on funds is calculated on the current Savings Wallet balance at the end of each month.
- There is an innovative application of technology which allows offline and online processing.
- It is a national electronic switch which targets the banked and unbanked.
- Due to its interoperability, customers of other banks can use any bank's ATM or POS devices to transact business.
- Customers are secured as a result of the biometric identification (finger print).
- Secure cash movement.
- Banks will benefit by charging transaction fees.
- Daily sales of merchants will be safe from robbers who might attack the them on their way to the bank.

### 3.9 Mobile Money

Mobile money or payment known also as Mobile wallet is an alternative payment method. Mobile money is being adopted by the mobile phone companies to make transfers and transactions on account using a mobile phone. The difference between mobile money and the other mobile technology applications is that there is no direct integration into any banking software so that it runs independently. It is a prepaid service first you have to load money on the mobile phone which is outside the banking software and then you later do the transaction.

You can do money transfer, payment for goods and services at merchant stores with mobile money. Instead of paying with cash, cheque or credit cards, a consumer can use a mobile phone to pay for a wide range of services and digital or hard goods such as music, videos, ringtones, online game subscription or items, wallpapers and other digital goods.

### 3.10 Point of Sale Terminal

Point of Sale Terminal is a computer terminal that is linked online to the computerized customer information files in a bank and magnetically encoded plastic transaction card that identifies

the customer to the computer. During a transaction, the customer's account is debited and the retailer's account is credited by the computer for the amount of purchase.

### **3.11 Tele Banking**

Tele Banking facilitates the customer to do entire non-cash related banking on telephone. Under this devise Automatic Voice Recorder is used for simpler queries and transactions. For complicated queries and transactions, manned phone terminals are used.

### **3.12 Eforex**

The "eforex" is an innovative platform incorporating robust security features and is designed to be user-friendly, fast and convenient. It is a highly flexible product offering the facility to the customers to customize and set their own limits for deal size, daily transaction limits etc. Details of all deals done are made available to the users on a real time basis.

State Bank of India, which has a very significant presence in India's foreign exchange markets, is always on the path of innovation and the "e-forex" is its second forex technology initiative in the last two months after the launch of "Fx Out" which was a unique product enabling sending of foreign currency remittances from any its branches in India.

### **3.13 Kaypay**

KayPay is a revolutionary Digital Banking innovation that leverages social media to offer a better and secure payment platform to all. KayPay is bank agnostic, facilitating transfer of funds instantly. The convenience of not having to know payee details breaks down all barriers of a process, which otherwise requires a host of information that one may not necessarily have handy.

Kotak Mahindra Bank (KMB), announced the launch of KayPay, the world's first bank agnostic payment product for Facebook users to send money to each other in an instant (24\*7). For the first time ever, millions of bank account holders can now transfer money to each other at any hour of the day or night, without needing net banking, or knowing various bank account related details of the payee.

KayPay offers a safe and secure platform to transact on the social networking site through a two-level authentication – Facebook user id & password and a One Time Password (OTP). Further, both sender and receiver immediately receive notifications via SMS and on Facebook about the transfer.

### **3.14 Digital Banking 'POCKETS'**

ICICI Bank launched 'Pockets' a digital banking service, enabling users to instantly send money to any e-mail id, mobile number, friends on Facebook and bank account. Anyone, including those who are not customers of ICICI Bank, can easily download the e-wallet from Google Playstore, fund it from any bank account in the country and start transacting immediately.

This wallet uses a virtual VISA card which enables the users to transact on any website or mobile application in India, it said, adding that customers can also request for a physical card to use it at any retail outlet. Users can choose to add a zero-balance savings account to the wallet, which will allow them to earn interest on their idle money, it said.

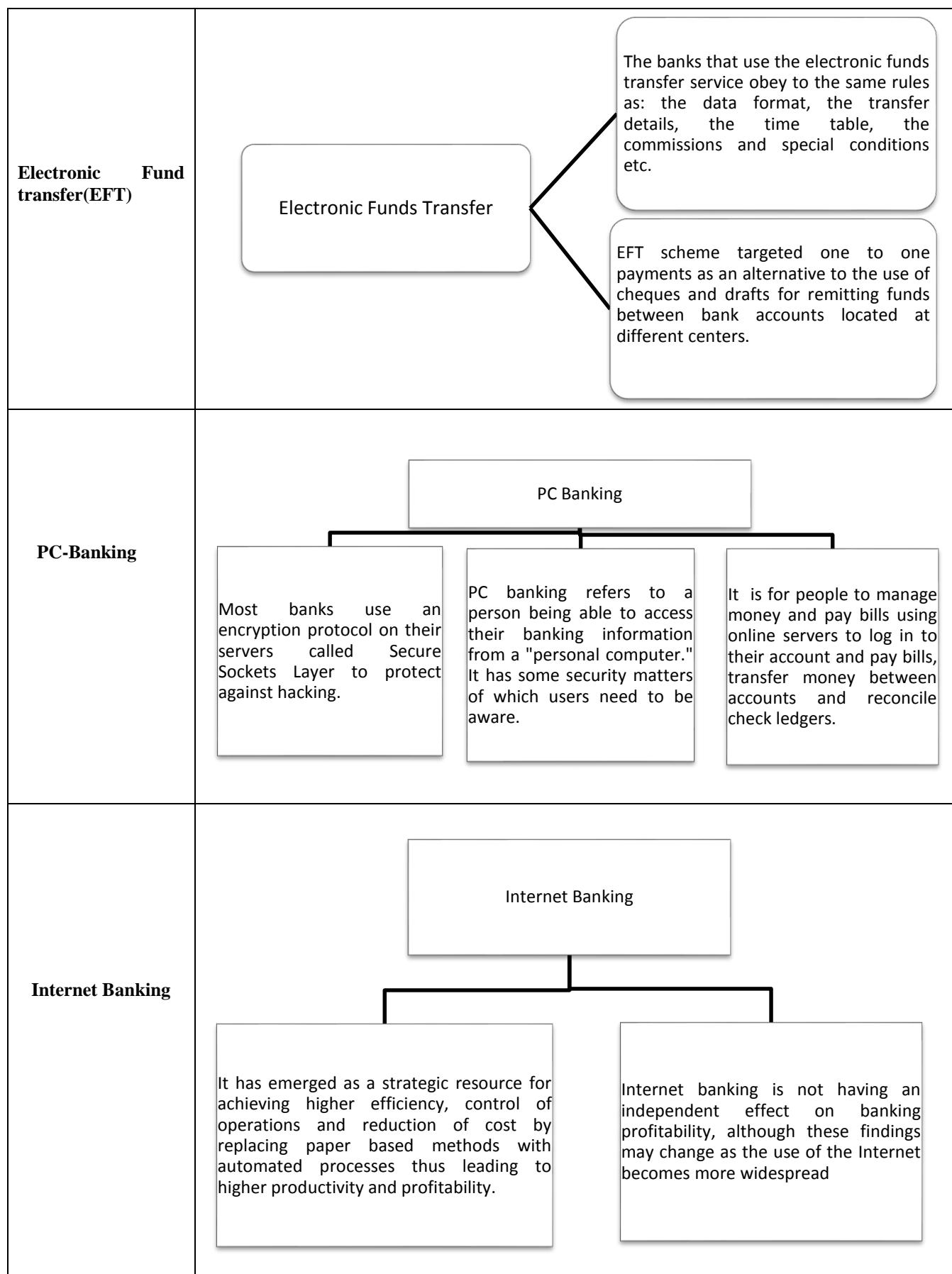
The universal wallet and the savings account are the first two products to be launched as part of the 'Pockets' digital bank, it added.

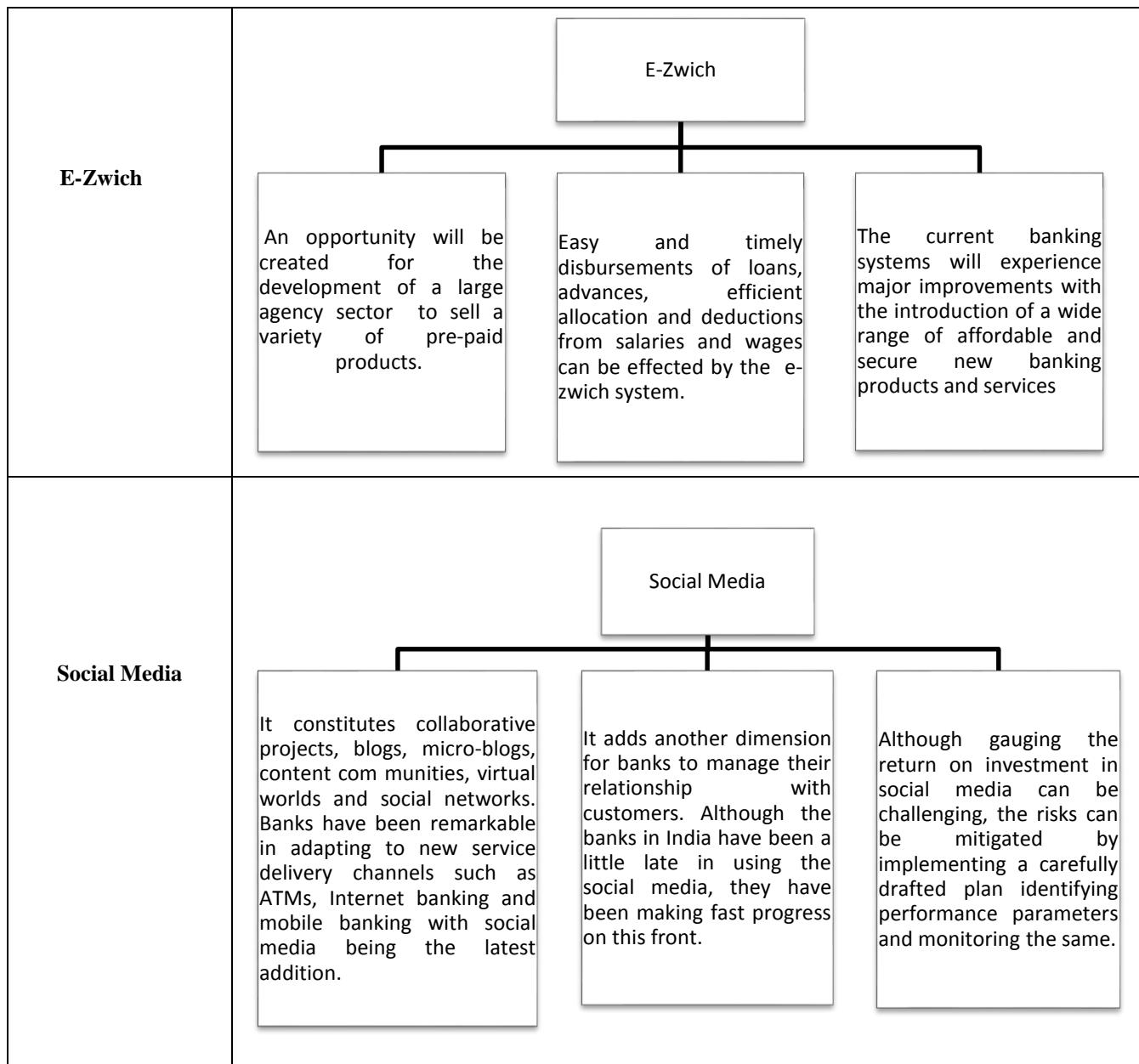
Table 2: Framework

INNOVATION	IMPACT OF INNOVATION ON BANKS' PERFORMANCE
<b>Cheque Truncation System(CTS)</b>	<div style="text-align: center;"> <p>Cheque Truncation System(CTS)</p> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div data-bbox="468 444 794 669"> <p>CTS reduces operational risks in banking operations as clearing is a highly fraud-prone operation.</p> </div> <div data-bbox="817 444 1135 635"> <p>Operational efficiency will provide a direct boost to bottom lines of banks as clearing of local cheques is a high cost low revenue activity.</p> </div> <div data-bbox="1151 444 1468 624"> <p>Obviating the need to move physical cheques is extremely beneficial in terms of saving cost and time for banks.</p> </div> </div>
<b>Real Time Gross Settlement (RTGS)</b>	<div style="text-align: center;"> <p>Real Time Gross Settlement (RTGS)</p> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div data-bbox="468 994 770 1275"> <p>The RTGS system is one in which payment instructions between banks are processed and settled individually and continuously throughout the day.</p> </div> <div data-bbox="817 994 1135 1275"> <p>The attraction of RTGS is that the payee banks receive funds with certainty and finality during the same day enabling them to use the funds immediately without exposing themselves to risk.</p> </div> <div data-bbox="1151 994 1484 1275"> <p>It does not create credit risk for the receiving participant because they settle the each payment individually , as well as the possibility of the risks being shifted outside the system .</p> </div> </div>
<b>Core Banking Solution(CBS)</b>	<div style="text-align: center;"> <p>Core Banking Solution(CBS)</p> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div data-bbox="468 1578 770 1847"> <p>All the financial parameters like, interest and non interest income, earnings per share, value of shares, etc are much improved after CBS, when compared to the pre CBS period.</p> </div> <div data-bbox="817 1578 1135 1847"> <p>CBS has helped banks become one-stop shops for all the financial needs of retail and corporate customers by offering multiple services under one roof</p> </div> <div data-bbox="1151 1578 1484 1847"> <p>It also provides a central operational database of customers assets and liabilities giving facility to generate a 360 degree view of the customer's relationship with the bank.</p> </div> </div>

Telephone Banking	<div style="border: 1px solid #ccc; padding: 10px; text-align: center;"> <b>Telephone Banking</b> </div> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>It is being utilized by virtual banks that rely heavily on telephone and Internet access to process transactions and provide information to customers.</p> </div> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Convenient for consumers who are uncomfortable with using online banking for some reason. Several ways that a telephone banking service may be configured e.g. voice recognition, use of login credentials.</p> </div>
Mobile Money	<div style="border: 1px solid #ccc; padding: 10px; text-align: center;"> <b>Mobile Money</b> </div> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Impact of mobile banking offers to banks is that it drastically cuts down the costs of providing service to the customers. It is helping service providers increase revenues from the now static subscriber base</p> </div> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Additionally, this new channel gives the bank ability to cross-sell up-sell their other complex banking products and services such as vehicle loans, credit cards etc.</p> </div> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>For service providers, Mobile banking offers the next surest way to achieve growth and increasingly using the complexity of their supported mobile banking services to attract new customers and retain old ones.</p> </div>
SMS Banking	<div style="border: 1px solid #ccc; padding: 10px; text-align: center;"> <b>SMS Banking</b> </div> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>SMS banking usually integrates with a bank's computer and communications systems</p> </div> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Open source online banking platform supporting mobile banking and SMS payments called Cyclos, which is developed to stimulate and empower local banks in development countries.</p> </div>

<b>Point Of Sale Terminal</b>	<p>Point Of Sale Terminal</p> <p>The launch of cash withdrawals at POS terminals will create a new mode of access, which not only enhances customer service but can also be leveraged for financial inclusion."</p> <p>The ability to offer cash is likely to be attractive to merchants as it means they can reduce the risk and cost associated with managing cash.</p>
<b>Customer Relationship Management (CRM)</b>	<p>Customer Relationship Management(CRM)</p> <p>CRM is the management approach to build internal and external relationships by which banks increase profit margins and productivity.</p> <p>If bank maintains CRM; it can store all customers' transactions, customer's data as well as their problems regarding any transactions.</p> <p>The principal theme of CRM is that customers who receive more than they expect from banking organization end up being satisfied.</p>
<b>Electronic Clearing Service(ECS)</b>	<p>Electronic Clearing Service</p> <p>The ECS was the first version of "Electronic Payments" in India. It is very useful in case of bulk transfers from one account to many accounts or vice- versa.</p> <p>It is a mode of electronic funds transfer from one bank account to another bank account using the mechanism of clearing house. There are two types of ECS</p> <p>1. ECS – credit 2. ECS- debit.</p>





#### IV. REVIEW OF LITERATURE

**Anyankworo (1999)** defined electronic banking as the application of computer technology to banking especially the payment (deposit transfer) aspects of banking. He also defined e-banking as a system of banking with an electronic communication network which permits on-line processing of the same day credit and debit transfers of funds between member institutions of a clearing system. In short, we can say that E- Banking is defined as using electronic devices like internet, wireless connection networks, ATM, phone and cell phone in banking services. These services were parts of providing currency for economic system of the country.

**Simpson (2002)** suggests that E-banking is driven largely by the prospects of operating costs minimization and operating revenues maximization. To know the profitability through using e-channels

**Devaraj, Fan and Kohli. (2002)** have stated that the concept of CBS has helped banks become one stop shops. For all the financial needs for retail and corporate customers by offering multiple service under one roof. Customer can now access their accounts from any branch of

there bank irrespective of the branch the account was opened. CBS increases employee efficiency and reduces human error and fraud.

**Sachidananda and Sanat (2006)** have illustrated Core banking system as the heart of all systems running in a bank and it forms the Core of the bank's IT platform. Amongst other functionalities, it provides the customer information management, central accounting and the transaction processing functions, which by far are the most fundamental processes in a bank.

**Godarzi & Zobaidi (1999)**, in their research paper stated that the more we are going to the higher levels of E- Banking, the less manual work will be; the more computer systematize, more the networks available, lesser is the time restriction, and ultimately the more secure banking system will be. For banks to stay on track of competition there is need to be aware of the rapid and continual growth of information technology and telecommunications which encourage the introduction of electronic services of the banking activities.

**Unnithan and Swatman (2001)** studied the drivers for change in the evolution of the banking sector, and the move towards electronic banking by focusing on two economies, Australia and India. The study found that Australia is a country with internet-ready infrastructure as far as tele communication, secure protocols, PC penetration and consumers' literacy are concerned. India, by comparison, is overwhelmed by weak infrastructure, low PC penetration, developing security protocols and consumer reluctance in rural sector. Although many major banks have started offering i-banking services, the slow pace will continue until the critical mass is achieved for PC, internet connections and telephones.

**(Lerner, 2006)** It becomes obvious that there is a tendency for a bank to minimize costs and expenditures. The other major benefit from e-banking innovation is fee based income(Dew, 2007). If a bank joins in an ATM network, it can generate income from other banks' customers that use its ATM machines or from third parties that cooperate with it.

**Kagan, Acharya, Rao and Kodepaka (2005)** in their study on whether internet banking affects the performance of community banks found that banks that provide extensive online banking services tend to perform better. They further found out that online banking helps community banks improve their earning ability as measured by return on equity and improved asset quality by reducing the proportion of overdue and underperforming assets.

**Rao and Prathima (2003)** provided a theoretical analysis of i-banking in India, and found that as compared to the banks abroad, Indian banks offering online services still have a long way to go. For online banking to reach a critical mass, there has to be sufficient number of users and the sufficient infrastructure in place.

**Kennickell and Kwast (1997)** analyzed the influence of demographic characteristics on the likelihood of electronic payment instrument usage among households. Payment services are an important part of the banking industry, accounting for a significant part of its revenues and operational costs. It is also considered as the backbone of banking activities as it is significantly associated with increased market share of other bank business.

**Massoud et al. (2006)** find that higher ATM surcharges result in a greater market share of deposits of larger banks and a lower market share for smaller banks. The distribution network of payment services plays a crucial role as it attracts customers to the bank and generates more revenue in retail banking and other related business lines. At the same time, these retail payment transaction technologies reduce the labour cost for banks and have the potential to reduce the costs of handling cash.

**Alex (2014)** examined the impact of e-banking on customer services and profitability of banks. The study found that e-banking has impacted positively on customer service and profitability of banks, though the study identified a number of challenges, it thus recommended among others that there should be 24/7 monitoring of ATMs so that any failure is addressed as soon as possible to guarantee customer retention.

**Adewoye (2013)** equally examined the impact of mobile banking on service delivery in the banks. The study employed primary data sourced through questionnaires, which were administered to staff and customers of some selected banks in the country. The results shows that mobile banking improves banks service delivery in a form of transactional convenience, saving time

and so on. To this end, the study recommended that banks management should create awareness to inform the public about the benefits delivered on the e-banking service products.

**B. Janki (2002)** analyzed that how technology is affecting the employees' productivity. There is no doubt, in India particularly public sector banks will need to use technology to improve operating efficiency and customer services. The focus on technology will increase like never before to add value to customer services, develop new products, strengthen risk management etc. the study concludes that technology is the only tool to achieve their goals.

**Mittal, R.K. & Dhingra, S.(2007)** studied the role of technology in banking sector. They analyzed investment scenario in technology in Indian banks but this study was related to the time period before the Information Technology Act and at that time technology in Indian banks was very low. But both the researchers nicely presented their views. Padhy, K.C. (2007) studied the impact of technology development in the banking system and he also highlights the future of banking sector. The core competencies will provide comparative advantages.

## V. FUTURE GAP

There exists a huge gap in this research field which can be done to show that it is very difficult to implement all the new technologies. Because banks face many obstacles in terms of financial losses, NPAs, political changes, lack of assets etc. And also it is difficult to align the reasons of not implementing the technologies bank wise. And a framework to explore and compare the dimensions and barriers that affect consumer's intention to use or adopt different innovative banking technologies. So, further research can be done in order to find those obstacles which hinders the performance of banking sector and solutions can be given for proper implementation of latest and updated technologies.

## VI. CONCLUSION

It investigates the impact of E-banking on profitability of Indian scheduled commercial banks. The univariate analysis indicates that Internet banks are larger banks and have better operating efficiency ratios and profitability as compared to non-Internet banks. Internet banks rely more heavily on core deposits for funding than non-Internet banks do. Indian Banking sector is passing through a series of innovative changes and Core Banking Solution (CBS) is the word most repeatedly heard among the latest changes. RBI is also motivating the banks to become totally computerized and CBS implemented throughout the country. Banks are trying to provide a variety of self-service channels such as Automated Teller Machines (ATM,) Internet banking and Mobile Banking (m-banking) in order to increase customer convenience, reduce costs and maintain profitability.

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